

REMARKS

Rejections under 35 U.S.C. § 112 2nd Paragraph

In an Office Action dated June 15, 2006, the Examiner rejected claims 8, 9, and 10 under 35 U.S.C. § 112 2nd paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. With respect to claim 8, it is unclear if the phrase "a dock" is related to the same phrase as recited in claim 1. In claim 9, the phrase "the columns" and in claim 10 the phrase "the floor structure" lack antecedent bases.

Rejections under 35 U.S.C. § 103

Claims 1, 3, 4, 5, 7, and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over United Kingdom Patent Application No. GB 2,056,391 to Tecnomare (hereinafter, "Tecnomare") in view of U.S. Patent No. 6,390,733 to Burbage et al. (hereinafter, "Burbage") and U.S. Patent No. 4,417,603 to Argy (hereinafter, "Argy"). The Examiner states that Tecnomare meets all the limitations of these claims except Tecnomare is silent to the first source being a floating vessel and the pipeline being for cryogenic fluids. Burbage was found to teach a first floating vessel and Argy to teach transferring cryogenic fluid through pipelines. The Examiner stated that it would have been obvious to one of ordinary skill in the art to modify Tecnomare to include a first floating vessel and to use cryogenic pipelines as taught by Burbage and Argy in order to transfer fluid from an offshore storage location and in order to transfer natural gas and the like. Modifying the cross sectional area of the columns at the water in the region of 20 to 25 m² as recited in claim 4 was considered obvious to one of ordinary skill in the art since such a modification provides a stable platform. Modifying the dock to accommodate tankers in the range of 50,000 to 150,000 m³ as recited in claim 5 was considered obvious to one of ordinary skill in the art since such a modification allows for different size tankers to receive oil, etc. Modifying the distance the turret is placed from a leading edge of the dock to be approximately 20% to 50% of the length of the dock as recited in claim

8 was considered obvious to one of ordinary skill in the art in order to achieve stability. The Office Action was silent as to why claim 7 was considered obvious.

Claim 2 was rejected as being unpatentable over Tecnomare in view of Burbage and Argy as applied to claim 1 and further in view of U.S. Patent No. 3,969,781 to Reid, Jr. (hereinafter, "Reid, Jr."). The Examiner states that Tecnomare, Burbage, and Argy meet all the limitations of claim 2 except Tecnomare lacks two or more rigid pipelines and means to enable the return of fluid received at the dock from one pipeline to a second pipeline. Reid, Jr. was found to teach two or more rigid pipelines and means to enable the return of fluid received at the dock from one pipeline to a second pipeline. Modifying Tecnomare's mooring system to include two or more rigid pipelines and means to enable the return of fluid received at the dock from one pipeline to a second pipeline would have been obvious to one of ordinary skill in the art in order to increase the amount of hydrocarbon being delivered to the tanker or to return the hydrocarbon to the production barge for processing.

Claims 6, 9, and 10 were rejected as being unpatentable over Tecnomare in view of Burbage and Argy as applied to claim 1 and further in view of U.S. Patent No. 3,644,286 to Chaney (hereinafter, "Chaney"). The Examiner states that Tecnomare, Burbage, and Argy meet all the limitations of these claims except Tecnomare is silent about the dock including a position control system and thrust production devices. Chaney was found to teach a dock including columns and ballasting means in the columns as well as a positioning control system and thrust production devices. Modifying Tecnomare's mooring system as recited in claim 1 to include the ballasting and positioning means of Chaney was stated to be obvious to one of ordinary skill in the art since the modification allows for the dock to compensate for wind and wave forces and the changes in weight distribution during loading and offloading of the hydrocarbon.

Applicant's Arguments

Applicant has carefully reviewed the arguments presented in the Office Action and respectfully requests reconsideration of the claims in view of the remarks presented below.

Claim 1

Claim 1 recites an apparatus for transferring cryogenic fluid from a first floating vessel to a second floating vessel in an offshore environment using a semi-submersible floating dock with variable buoyancy means to enable the engagement of the dock with the underside of the keel of the second vessel and a single-point mooring system attached to the dock and a rigid cryogenic pipeline with means for transferring cryogenic fluid from the dock to the second vessel and flexible connections therein.

Tecnomare

United Kingdom Patent Application No. GB 2,056,391 to Tecnomare discloses a mooring system for surface vessels using an anchoring member on the sea bed, a frame mounted to a surface vessel, an arm connecting the anchor and frame vertically pivotal at each end and a flexible pipeline connecting the anchoring member and frame along the arm for transferring fluid.

Unlike Applicant's mooring system, Tecnomare's mooring system uses a mooring point, (the anchor member) on the seabed with a rigid arm connecting the floating frame to the mooring point (Fig. 1). Tecnomare is silent and irrelevant to situations where a surface supply point is used such as in Applicant's system where both vessels are floating (as recited in claim 1). One of ordinary skill in the art would apply the teachings of Tecnomare to the embodiments of other teachings which have supply points at the seabed. Tecnomare does not teach, suggest, or motivate one to apply his teachings to situations with two floating vessels. Furthermore, as the Examiner has noted, Tecnomare is silent about the pipeline being cryogenic.

Burbage

U.S. Patent No. 6,390,733 to Burbage et al. discloses a barge capable of unmanned operation able to connect with a pipeline to a production facility with mooring between the barge and a floating platform such as a spar or tension lag platform. Unlike Applicant's invention, Burbage does not teach, suggest, or motivate one of ordinary skill in the art to use either rigid pipelines or pipelines for the transfer of cryogenic fluid. Furthermore, Burbage does not teach or disclose engaging of a dock to the underside of the keel of the second vessel. Attempting to engage the underside of the keel of a barge in Burbage with one a platform as suggested by Burbage would result in an unworkable scenario and teaches away from the goals of Applicant's invention.

Argy

U.S. Patent No. 4,417,603 to Argy discloses a flexible pipeline for transferring cryogenic fluids from an offshore environment. Unlike Applicant's invention, Argy teaches that in the field of cryogenic fluid transfer using a flexible pipeline is preferable and suggests that using rigid pipelines is inferior and a problem to overcome. This is seen where in discussing the problems of rigid pipes in conveying fluids from tankers, "serious inconveniences" are observed in constructing such pipelines that are too heavy and whose length have a deleterious cantilevering effect and are difficult to align between points because of alignment issues surrounding tidal movements (column 1, lines 20-57). Argy also teaches that "...loading booms and arms are not economically feasible....", suggesting the use of flexible pipelines instead (column 1, lines 58-61). On review, Tecnomare recites in his claim 1, using a rigid arm in connecting his supply point and mooring point. Therefore, Argy, which post-dates Tecnomare, explicitly teaches away from applying Argy's flexible pipeline to Tecnomare's pipeline and arm mooring system.

Lastly, Tecnomare, Burbage, and Argy are either silent about or expressly teach away from using a rigid pipeline for cryogenic fluid transfer between two floating vessels and thus do not teach each and every element as recited in Applicant's claim 1 and

therefore cannot be properly cited as prior art for rejecting the claims as unobvious. Additionally, none of the prior art suggests, teaches, or motivates to one ordinarily skilled in the art to combine the limitations of each to arrive at Applicant's mooring system.

Claims 2-10

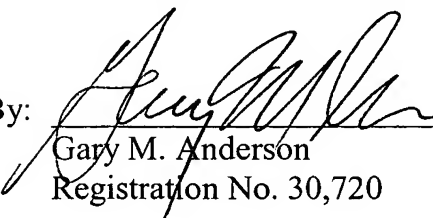
Claims 2 through 10 depend from claim 1 and are patentable for the same reasons as claim 1. Furthermore claims 8-10 have been amended and are believed to render moot the 35 U.S.C. § 112 2nd paragraph rejections.

From the foregoing it is clear that Applicant has made a significant contribution to the art and it is believed that the claims are in condition for allowance and early notice thereof is requested.

If any fees are due, please charge our Deposit Account No. 21-0800.

Respectfully submitted,

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